

CLAIMS

1. An information recording apparatus for recording record information onto an information recording medium having a plurality of recording layers,

5 said information recording apparatus comprising:

a writing device capable of writing the record information into the plurality of recording layers;

a controlling device for controlling said writing device to write first border information or second border information with a smaller recording capacity than that of the first border information, at an end of the record information recorded into one recording layer of the plurality of recording layers; and

a detecting device for detecting a spare capacity of a data area of the one recording layer,

15 said controlling device controlling said writing device to write the first border information at the end if the detected spare capacity is equal to or greater than a first threshold value, and controlling said writing device to write the second border information at the end if the detected spare capacity is less than the first threshold value.

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2. The information recording apparatus according to claim 1, wherein the first threshold value is equal to the recording capacity of the first border information.

25 3. The information recording apparatus according to claim 1, wherein said controlling device controls said writing device to write the first border

information, bridging over a space area of the data area of the one recording layer and a data area of another recording layer of the plurality of recording layers, if the detected spare capacity is less than a second threshold value which is smaller than the first threshold value.

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4. The information recording apparatus according to claim 3, wherein the second threshold value is equal to the recording capacity of the second border information.

10 5. The information recording apparatus according to claim 1, wherein said controlling device controls said writing device to write the second border information, bridging over a space area of the data area of the one recording layer and a buffer area formed on an outer circumferential side of the data area, if the detected spare capacity is less than the second threshold value.

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6. The information recording apparatus according to claim 5, wherein said controlling device controls said writing device to write the first border information, bridging over the space area and a data area of the another recording layer, if the detected spare capacity is less than a third threshold value which is smaller than the second threshold value.

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7. The information recording apparatus according to claim 6, wherein the third threshold value is equal to a recording capacity of data for recording management which is located at a head of the second border information.

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8. The information recording apparatus according to claim 1, wherein

the second border information does not include a stop block which is included in the first border information.

9. An information recording method in an information recording
5 apparatus comprising a writing device capable of writing record information into a plurality of recording layers with respect to an information recording medium having the plurality of recording layers,

said information recording method comprising:

a controlling process of controlling said writing device to write first
10 border information or second border information with a smaller recording capacity than that of the first border information, at an end of the record information recorded into one recording layer of the plurality of recording layers; and

a detecting process of detecting a spare capacity of a data area of the
15 one recording layer,

said controlling process controlling said writing device to write the first border information at the end if the detected spare capacity is equal to or greater than a first threshold value, and controlling said writing device to write the second border information at the end if the detected spare capacity
20 is less than the first threshold value.

10. A computer program of instructions for recording control and for tangibly embodying a program of instructions executable by a computer provided in the information recording apparatus according to claim 1, to
25 make the computer function as at least one of said controlling device, said detecting device, and said writing device.